

NOTES ON POLEMONIACEAE

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GILIA INCONSPICUA Dougl. ex Hook. Bot. Mag. pl. 2883. 1829, *nomen confusum*. *Ipomopsis inconspicua* Smith, Exot. Bot. pl. 14. 1805. *Cantua parviflora* Pursh, Fl. Am. Sept. 2: 730. 1814. *Gilia parviflora* Spreng. Syst. Veg. 1: 626. 1825.

In the year 1805 J. E. Smith published in his "Exotic Botany" the name *Ipomopsis inconspicua* based upon plants cultivated in England. The plants were "raised in 1793 by Mr. Thos. Hoy, F. L. S. at Sion House, from seed brought, if I mistake not, from America. Mr. Sowerby sketched it in November of that year." Pursh, in 1814, transferred *I. inconspicua* Smith to the genus *Cantua*, renaming it *C. parviflora*. However, his doubt as to its origin in North America was expressed in the following words, "I insert this plant on the authority of Exotic Botany; but at the same time I doubt very much of its being a native of North America, and more strongly suspect it to come from Mexico." Sprengel transferred the species to *Gilia* in 1825 making the combination *G. parviflora* (Pursh) Spreng., reporting it from North America and citing *Cantua parviflora* Pursh and *Ipomopsis inconspicua* Smith as synonyms. Hooker in 1829 published a manuscript name of Douglas whereby Douglas referred *Ipomopsis inconspicua* Smith to the genus *Gilia* as *G. inconspicua* (Smith) Douglas. All three of the above mentioned names were cited as synonyms. Hooker's remarks are enlightening, "Of the authors who have hitherto described this plant, Smith alone has seen specimens which were cultivated at Sion House, in 1793, from seed which he supposed to be brought from some part of America. Pursh imagined it to be a native of America: but it was reserved for the indefatigable Mr. Douglas to determine its exact locality. He discovered it in the woodless tracts, or sandy barrens on the Southern branches of the river Columbia, on the Northwest coast of America, growing under the shade of *Purshia* (*Tigarea*. Ph.) *tridentata* and some species of *Artemisia*."

The descriptions by Smith and by Hooker are each accompanied by illustrations in color. It is obvious that the plants illustrated in each case are the same species. It is also obvious that the plants illustrated are not of a type known as yet from the interior of the Columbia River region in northwestern America. Nor does Hooker's illustration agree with the Douglas specimen in the Hooker Herbarium labeled in Hooker's handwriting "*Gilia inconspicua* Douglas." The description given by Hooker more nearly fits the plant illustrated. It would seem that the description was drawn from fresh material as was the illustration, and that an error was made in the source of the seed that gave rise to the plant. The description and the illustration of Hooker fit *Ipomopsis inconspicua* Smith, whatever that species may be.

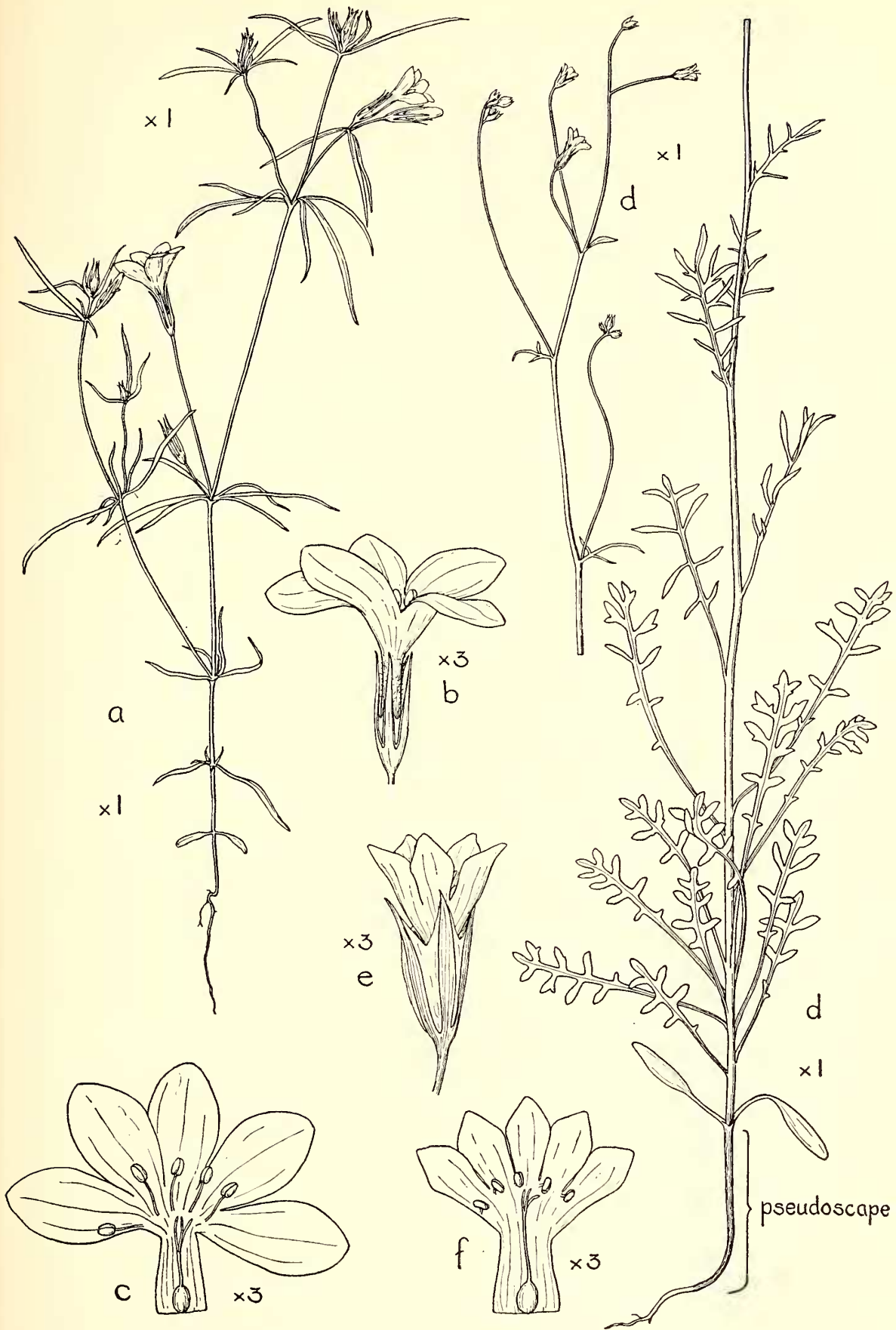


PLATE 26. LINANTHUS WIGGINSII AND GILIA CLOKEYI. Figs. a-c, *Linanthus Wigginsii*; figs. d-f, *Gilia Clokeyi*.

Later botanists have largely gauged their concept of *Gilia inconspicua* on the specimen of Douglas rather than on the description and illustration of either Smith or Hooker. As a result, the name *G. inconspicua* Dougl. ex Hook. is erroneously applied to the plant of the arid interior of the Great Basin of North America. Smith's plant was grown in England and described before any botanist had traversed that portion of the interior of America. The next oldest available name for this group of plants is *Gilia sinuata* Dougl. ex Benth. based on specimens collected by Douglas from near the confluence of the Okanogan River with the Columbia. This entity has been regarded by different authors as distinct either specifically or varietally from *G. inconspicua* Dougl. ex Hook. or as completely synonymous with that species. At any rate the plants represented by these names constitute an exceedingly variable genetic complex, and an eco-genetic analysis must be made before a clear understanding of the taxonomy of the group is possible.

The identity of the plants represented by the name *Ipomopsis inconspicua* Smith is not easy to determine. It seems probable that if they were derived from western North America they must have come from the coastal region. In North America plants of the group now passing under the name *Gilia multicaulis* Benth. are an excellent match for the illustrations of Smith and Hooker and could well have been collected at Monterey, San Francisco or Bodega, points visited by most of the early exploring expeditions. In both illustrations mentioned above, only portions of the plants are represented and these are not sufficiently complete to make identification certain. On the other hand, *Gilia laciniata* Benth. and *G. valdiviensis* Griseb. of South America are also close. Because of the permanent uncertainty as to the identity of Smith's original material the name *Gilia inconspicua* should be designated as a *nomen confusum*.

***Gilia Clokeyi* sp. nov.** Herba annua erecta, 5–30 cm. alta, plerumque pseudoscapo evidente, 15–25 mm. alto; caules infra plerumque simplices in inflorescentibus ramosi; cotyledones lineari-spatulati, 12–16 mm. longi, 2–2.5 mm. lati, in petiolos graciles attenuati; folia in ambitu anguste oblonga, alterna, basi non rosulata in inflorescentibus abrupte reducta bracteata, pinnate vel bipinnate lobata, lobis aliquanto remotis, foliorum inferiorum segmentis ultimis ovatis, superiorum lanceolatis, glabra vel rarius sparse floccosa tandem glabrescentia, textura delicata; pedicelli atque ramuli florales ultimi glandulis paucis nigris capitellatis; calyx infra sinus membranaceus, membranis aliquanto distensis; corolla infundibuliformis, 6–9 mm. longa, pallido-coerulea vel fere alba, faucibus luteis, 1–1.5 mm. longis, tubo luteo, intus glabro, 3 mm. longo, lobis rhomboideis, circa 3 mm. longis; stamina in sinibus corollae affixa, antheris subsessilibus, circa 0.6 mm. longis, albis vel pallido-coeruleis, polline antheris similiter tincto;

pistillum 3-9 mm. altum, stylo apice diviso, ramis 0.5-1 mm. longis; capsula late ovoidea; semina matura non visa.

Erect annual 5-30 cm. high, usually with an evident pseudoscape 15-25 mm. high; stems usually simple below, openly branched in the inflorescence; cotyledons linear spatulate, 12-16 mm. long, 2-2.5 mm. wide, the lower one-third or one-half narrowed to a slender petiole; leaves narrowly oblong in outline, alternate, not in a basal rosette, becoming abruptly reduced and bracteate in the inflorescence, pinnately, or sometimes bipinnately lobed, the lobes somewhat remote, the ultimate segments of the lower leaves ovate, those of the upper lanceolate, glabrous, or more rarely sparingly floccose and becoming glabrate, texture thin and delicate; pedicels and ultimate branches of the inflorescence with a few black tack-shaped glands; calyx membranous below the sinuses, the membrane somewhat distended; corolla funnelform, 6-9 mm. long, pale blue to almost white, lobes rhomboid about 3 mm. long, throat and tube yellow, throat 1-1.5 mm. long, the tube 3 mm. long, glabrous within; stamens inserted in the sinuses of the corolla lobes, anthers subsessile about 0.6 mm. long, white to pale blue, pollen of the same color; pistil 3-9 mm. high, style divided at the tip, the three branches 0.5-1 mm. long; capsule broadly ovoid, mature seed not seen.

Type. Larrea belt, altitude 1200 meters, north base of limestone ledge, Red Rocks, Charleston Mountains, Clark County, Nevada, March 31, 1940, *I. W. Clokey 8599* (Clokey Herbarium at the Herbarium of the University of California). Other collections. Talus slopes above Wilson's Ranch, Charleston Mountains, Clark County, Nevada, May 3, 1939, *Bassett Maguire 16620*.

Gilia Clokeyi has been passing with a complex group of plants as *Gilia inconspicua* (Smith) Dougl., a name which, as has been indicated above, is of uncertain identity. The newly recognized entity may be distinguished readily by the lack of a rosette of congested leaves at the base of the stem, also by the essentially glabrous herbage, remotely lobed leaf blades and long narrow cotyledons.

Linanthus Wigginsii sp. nov. Herba annua, 3-12 cm. alta simplex vel pauciramosa; internodia 5-50 mm. longa, pilis densis sparsisve, debilibus brevibus contortis, tandem glabrescentibus; cotyledones lineari-spatulati, 3-5 mm. longi; folia infra saltem opposita aliquando in inflorescentibus subopposita vel alterna, palmatim in 3 (2-5) segmentis linearibus 5-20 mm. longis incisa, vel inferiora et superiora quandoque simplicia; flores non congesti, solitarii vel gemini in axillis foliorum superiorum; pedicelli graciles inaequales, 3-20 mm. longi; calyx 4-5 mm. longus, tubo 1 mm. longo, lobis linearibus 4 mm. longis, marginibus inferioribus ad sinus callosos-incrassatis infra sinus membranis parvis; corolla late infundibuliformis alba, longitudine rare 10 mm. excedens, tubo calycem aequante, vel subaequante, extus pubescente intus glabro, faucibus abrupte expansis 1.5-2 mm. longis, lobis

obovatis 5 mm. longis, 2–3.5 mm. latis; stamina faucium in parte inferiora affixa, filamentis filiformibus glabris, 1.5 mm. longis, antheris luteis, 0.5 mm. longis e faucibus exsertis; ovarium 1 mm. altum, stylo 3–5 mm. longo ad medium in tres divisionibus linearibus inciso; fructus non visus; semina non visa.

Slender annual 3–12 cm. high, simple or with a few branches; internodes 5–50 mm. long with dense or sparse, weak short twisted hairs, becoming glabrate; cotyledons linear-spatulate, 3–5 mm. long; leaves opposite at least below, sometimes subopposite or alternate in the inflorescence, palmately cleft into 2 to 5 (normally 3) linear divisions, 5–20 mm. long, occasionally the lower and sometimes the upper simple; flowers solitary or in pairs in the upper leaf axils on slender unequal pedicels, showing little tendency toward congestion; pedicels 3–20 mm. long; calyx 4–5 mm. long, the tube 1 mm. long, the linear lobes 4 mm. long, lower margins of the lobes callous thickened toward and in the sinus, the sinus with a small membrane; corolla broadly funnel-form, white, rarely exceeding 10 mm. in length, the tube equal or subequal to the calyx, pubescent externally, glabrous within; throat abruptly expanded, 1.5–2 mm. long, lobes obovate, 5 mm. long, 2–3.5 mm. wide; stamens inserted on the lower half of the throat, filaments threadlike, glabrous, 1.5 mm. long, anthers 0.5 mm. long, yellow, exserted from the throat; ovary 1 mm. high, style 3–5 mm. long, cleft to almost one-half its length into three linear divisions; fruit and seeds not seen.

Type. Southern end of Santa Maria plains, Baja California, Mexico, February 5, 1935, *Ira L. Wiggins 7557* (Dudley Herbarium, Stanford University, 263704; isotype, Herbarium of the University of California, 659206).

Linanthus Wigginsii is closely related to *L. Nuttallii* var. *floribundus* (Greene) McMinn from which it differs, however, in a number of significant characters. These differences may be best expressed by a key:

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| Plants perennial from a woody base, 1–5 dm. high; internodes stout; leaves 5 to 8 cleft, rarely subopposite; many-flowered, flowers sessile or short-pedicelled; calyx pubescent; corolla 12–20 mm. long, lobes 7–10 mm. long, spatulate to ovate; stamens included, filaments 1 mm. long, anthers 0.75 mm. long | <i>L. Nuttallii</i> var. <i>floribundus</i> |
| Plants slender annuals, 3–12 cm. high; internodes slender; leaves 2 to 5 cleft, usually subopposite in the inflorescence; few-flowered; flowers short-pedicelled to long-pedicelled; calyx glabrous; corolla 8–10 mm. long, lobes 5 mm. long, obovate; stamens exserted, filaments 1.5 mm. long, anthers 0.5 mm. long | <i>L. Wigginsii</i> |

Linanthus Wigginsii seems definitely to establish a place for *L. Nuttallii* (Gray) Greene and its allies in the genus *Linanthus* rather than in the genus *Leptodactylon* where it has been placed by some authors. Its position in this latter genus has been maintained solely upon its perennial woody habit. The relationship

between *L. Nuttallii* and *L. Wigginsii* is so close as to make generic separation impossible. Similarity between the two species may be noted in a tendency of the flowers to occur in pairs in the leaf axils, in the unequal pedicels of the paired flowers, in the shape, color and pubescence of the corolla, and in the very similar details of the calyx such as the thickening of the margins of the lobe and the nature of the membrane in the sinuses.

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EBUROPHYTON HELLER: A VALID GENUS OF THE ORCHIDACEAE

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EBUROPHYTON AUSTINAE (Gray) Heller, *Muhlenbergia* 1: 49. 1904. *Chloraea Austinae* Gray, *Proc. Am. Acad.* 12: 83. 1876. *Cephalanthera oregana* Reichb. f., *Linnaea* 41: 53. 1876. *Cephalanthera Austinae* Heller, *Cat. N. Am. Pl.* ed. 2, p. 4. 1900. *Serapias Austinae* A. A. Eaton, *Proc. Biol. Soc. Wash.* 21: 66. 1908.

In 1876 Asa Gray described an orchid from California which he called *Chloraea Austinae*. *Chloraea* is a genus of orchids occurring in South America from the Falkland Islands north to Peru, with its greatest concentration of species in the Andes of Chile. *Chloraea* occurs mainly in open habitats and quite often in very hard, sterile soil. So far as I know no member of the genus is saprophytic. In the same year, 1876, H. G. Reichenbach described the same species, from a specimen collected by Nuttall, under the name of *Cephalanthera oregana*. *Cephalanthera* is a genus primarily of Europe and adjacent regions but one in which the species are not saprophytic. The third generic name was that applied by Heller in 1904, *Eburophyton*, a name designed to contain the single species in question. In 1908 A. A. Eaton placed the species in still a fourth genus as *Serapias Austinae*. Although the species has no special character to recommend its being placed in this genus it is here that it has been treated most often. Ames in "Enumeration of the Orchids of the United States and Canada" (1924), the most authoritative work yet published on the region covered, placed the species here.

Eburophyton Austinae is at once excluded from *Serapias* by its anther which is attached by a slender filament and is not solidly attached as in *Serapias*. From *Chloraea* it is distinguished by its saprophytic habit, by the lip being divided into an epichile and hypochile, with the hypochile gibbous at the base. From *Cephalanthera* the distinction is more difficult but the scarious nature of the leaves, saprophytic habit and geographical distribution would seem to indicate a separate genus.

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